United States Department of Agriculture

Soil Conservation Service

Montana Basin Outlook Report April 1, 1994

Basin Outlook Reports
and
Federal - State - Private
Cooperative Snow Surveys

For more water supply and resource management information, contact:
See Attached List

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

Beaverhead County
Scott Zimmerman
683-4963

Big Horn County
Wayne Nipple
665-3777

Blaine County
Matthew Crampton
357-2310

Broadwater County
Larry Robertson
266-3146

Carbon County
El Vera George
962-3641

Carter County
Wayne Yost
775-6355

Cascade County
Danny Burgett
727-3603

Chouteau County
Dale Krause
622-5627

Custer County
Roger Goff
232-2439

Daniels County
Stanley French
487-2872

Dawson County
Michael Carlson
365-5565

Deer Lodge County
Glen Green
846-1703

Fallon County
Rick Caquelin
778-2217

Fergus County
Theodore Hawn
538-7401

Flathead County
Richard Pettersen
752-4242

Gallatin County
Gordon Hill
587-6929

Garfield County
Clarence Clayton
557-2232

Glacier County
Dennis Dellwo
873-4292

Golden Valley County
John Rouane Jr
323-2103

Granite County
Matthew Crampton
859-3291

Hill County
George Cleek
265-6252

Jefferson County
Robert Leinard
287-3215

Judith Basin County
William Zizz
566-2311

Lake County
Carlos Rodriques
883-5875

Lewis and Clark County
Meg Bishop
449-5278

Liberty County
Eileen Eide
759-5779

Lincoln County
Angel Rosario
296-2233

Madison County
Michael Barron
842-5741

McCone County
Joe Carleton
485-2660

Meagher County
Owen McDonagh
547-3633

Mineral County
John Blaine
251-4826

Missoula County
John Blaine
251-4826

Musselshell County
John Rouane Jr
323-2103

Park County
Geri Sullivan
222-2899

Petroleum County
Theodore Hawn
538-7401

Phillips County
Allen McNeal
654-1334

(over)

Pondera County
Phyllis Philipps
278-3922

Powder River County
Joseph Fidel
436-2417

Powell County
Glen Green
846-1703

Prairie County
Mark Parman
637-5381

Ravalli County
Keith Robertson
363-5010

Richland County
Kim Whipple
482-2110

Roosevelt County
Richard Iversen
787-5232

Rosebud County
Rocklin Schwagler
356-7626

Sanders County
Timothy Julander
826-3701

Sheridan County
Monica Friedrich
765-1801

Silver Bow County
Robert Leinard
287-3215

Stillwater County
Philip Sandoval
322-5359

Sweet Grass County
Charles Roloff
932-5160

Teton County
John Streich
466-5722

Toole County
David Pratt
434-5835

Treasure County
Rocklin Schwagler
356-7626

Valley County
Lanny Walker
228-4324

Wheatland County
John Oiestad
632-5534

Wibaux County
Rick Caquelin
778-2217

Yellowstone County
Harold Cottet Jr.
657-6527

MONTANA Water Supply Outlook Report as of April 1, 1994

March did not increase the mountain snowpack for Northwest and Southwest Montana, as hoped. More than fifty percent of Montana's major river basins should have adequate snowpacks to meet surface water supply demands. The other major river basins will need above average spring precipitation to insure adequate surface water supplies. Generally, areas with lake or reservoir storage should have adequate spring and summer surface water supplies. However, areas in the Clark Fork, Bitterroot, Helena Valley and Jefferson River Basins that do not have lake or reservoir storage, will have water shortages without timely, above average spring rain.

SNOWPACK

April 1 snowpack conditions in the fourteen major river basins of Montana are 29 percent below average and about the same as last year. With 95 percent of our winter snowpack on the ground, all thirteen major river basins are below to well below average.

Snowpack extremes are in the Little Bighorn basin where the snowpack was 13 percent above average and 57 percent above last year and in the Blackfoot and East Side Bitterroot basins where the snowpack was 63 percent below average and 10 percent below last year.

West of the Continental Divide, snowpacks were 33 percent below average and 3 percent below last year. East of the Continental Divide, snowpacks were 24 percent below average and 2 percent above last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	67	97
KOOTENAI	68	99
FLATHEAD	72	101
UPPER CLARK FORK	63	97
BITTERROOT	63	94
LOWER CLARK FORK	62	87
MISSOURI	72	94
HEADWATERS MISSOURI	68	87
JEFFERSON	65	86
MADISON	70	78
GALLATIN	72	93
MAINSTEM MISSOURI	78	109
HELENA VALLEY	68	97
MAINSTEM ABOVE FT. BENTON	75	105
MAINSTEM ABOVE FT. PECK RES	77	109
SMITH-JUDITH-MUSSELSHELL	82	113
SUN-TETON-MARIAS	75	109
MILK	81	109
ST. MARY	87	130
YELLOWSTONE	82	115
UPPER YELLOWSTONE	77	111
LOWER YELLOWSTONE	88	120
WIND	78	97
BIGHORN	90	124
TONGUE (NORTH BIGHORN MTNS)	103	143
POWDER (SOUTH BIGHORN MTNS)	88	131

BASIN SUMMARY OF SNOW COURSE DATA

APRIL 1994

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
MONTANA						
ABUNDANCE LAKE	8800	3/28/94	50	13.8	13.1	20.8
AMBROSE	6480	3/31/94	27	7.6	8.8	13.2
ASHLEY LAKE	4000	3/23/94	16	4.8	4.2	5.8
ARCH FALLS	7350	3/28/94	39	9.7	9.1	12.8
ASHLEY DIVIDE	4820	3/23/94	16	5.2	5.1	6.6
BADGER PASS PILLOW	6900	4/01/94	---	26.2	22.0	36.5
BADGER PASS	6900	3/27/94	78	28.7	23.8	38.4
BALD RIDGE	7500	4/01/94	26	7.3	8.2	13.4
BANFIELD MTN PILLOW	5600	4/01/94	---	13.6	13.4	20.2
BANFIELD MOUNTAIN	5600	3/29/94	40	14.8	14.6	22.9
BAREE CREEK	5500	3/29/94	69	28.6	30.8	45.3
BAREE MIDWAY	4600	3/29/94	67	23.9	25.1	35.1
BAREE TRAIL	3800	3/29/94	15	5.5	6.6	8.4
BARKER LAKES PILLOW	8250	4/01/94	---	10.5	11.8	15.4
BARKER LAKES	8250	4/04/94	46	10.3	11.6	15.6
BASIN CREEK PILLOW	7180	4/01/94	---	7.4	6.4	6.6
BASIN CREEK	7180	3/25/94	35	7.0	7.0	8.7
BASSOO PEAK	5150	3/28/94	20	6.8	6.8	11.3
BEAGLE SPGS PILLOW	8850	4/01/94	---	6.5	8.7	8.4
BEAGLE SPRINGS	8850	3/29/94	29	7.3	8.5	9.7
BEAR BASIN	8150	3/28/94	55	17.3	17.1	21.4
BEAVER CREEK PILLOW	7850	4/01/94	---	12.4	17.2	18.3
BERRY MEADOW	7000	3/31/94	19	5.6	5.8	8.0
BIG CREEK	6750	3/31/94	72	27.4	33.3	45.7
BIG SNOWY	7150	3/31/94	57	19.6	18.2	22.4
BISSON CREEK PILLOW	4920	4/01/94	---	5.8	6.7	10.2
BISSON CREEK	4920	3/30/94	21	7.2	8.9	9.7
BLACK BEAR PILLOW	7950	4/01/94	---	30.4	36.3	38.5
BLACK BEAR	7950	4/04/94	97	30.0	42.2	42.5
BLACK MOUNTAIN	7750	3/31/94	47	12.8	10.0	16.3
BLACK PINE PILLOW	7100	4/01/94	---	9.8	8.8	12.7
BLACK PINE	7100	3/28/94	33	8.9	7.4	13.5
BLACKTAIL	5650	3/30/94	30	10.3	12.1	14.2
BLOODY DICK PILLOW	7550	4/01/94	---	9.1	9.6	12.6
BLOODY DICK	7600	3/29/94	33	10.0	8.8	13.7
BLUE LAKE	5900	3/27/94	52	18.6	17.9	25.3
BOTS SOTS	7750	3/31/94	29	7.4	4.4	8.2
BOULDER MTN PILLOW	7950	4/01/94	---	16.3	16.1	20.6
BOULDER MOUNTAIN	7950	3/28/94	52	14.1	12.9	19.5
BOX CANYON PILLOW	6700	4/01/94	---	8.7	6.9	10.3
BOX CANYON	6670	3/30/94	31	9.9	7.7	12.2
BOXELDER CREEK	5100	3/28/94	35	10.1	8.4	8.3
BRANHAM LAKES	8850	3/29/94	53	17.0	18.9	30.2
BRIDGER BOWL PILLOW	7250	3/30/94	---	18.7	17.7	26.2
BRIDGER BOWL	7250	3/30/94	60	21.9	18.8	26.9
BRISTOW CREEK	3900	3/29/94	0	.0	5.5	9.4
BRUSH CREEK TIMBER	5000	3/30/94	12	3.0	6.2	9.5
BULL MOUNTAIN	6600	3/30/94	16	5.2	2.4	6.4
CABIN CREEK	5200	3/27/94	18	5.0	4.1	6.2
CALL ROAD	8050	3/29/94	32	8.2	9.0	12.4

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
CALVERT CR PILLOW	6430	4/01/94	---	3.3	6.4	8.9
CALVERT CREEK	6430	3/30/94	27	6.8	9.0	11.5
CAMP MISERY	6400	3/30/94	84	34.6	40.8	49.0
CAMP SENIA	7890	3/31/94	30	6.0	3.6	6.6
CARROT BASIN PILLOW	9000	4/01/94	---	20.0	27.0	28.3
CARROT BASIN	9000	3/28/94	66	20.4	30.0	36.4
CARTER CREEK	7400	3/28/94	19	4.2	5.2	5.9
CEDAR GROVE	3760	3/29/94	16	5.9	11.7	12.2
CHESSMAN RESERVOIR	6200	3/31/94	8	1.9	2.2	3.9
CHICKEN CREEK	4060	3/29/94	40	14.9	11.9	14.0
CLOVER MDW PILLOW	8800	4/01/94	---	13.1	15.0	18.6
CLOVER MEADOW	8600	3/29/94	47	12.6	12.2	17.9
COLE CREEK PILLOW	7850	4/01/94	---	16.8	10.6	17.3
COLE CREEK	7850	4/04/94	73	20.2	11.0	18.0
COLLEY CREEK	6300	3/31/94	28	8.2	3.7	8.9
COMBINATION PILLOW	5600	4/01/94	---	3.1	3.7	5.8
COMBINATION	5600	3/28/94	13	3.6	4.1	6.1
COPPER BOTTOM PILLOW	5200	4/01/94	---	10.6	9.9	11.7
COPPER BOTTOM	5200	3/26/94	29	9.4	8.5	10.5
COPPER CAMP PILLOW	6950	4/01/94	---	18.4	19.8	34.9
COPPER CAMP	6950	3/26/94	55	17.6	20.8	29.9
COPPER CREEK	5700	3/26/94	33	10.0	10.7	14.2
COPPER MOUNTAIN	7700	3/28/94	32	6.9	8.8	11.4
COTTONWOOD CREEK	6400	3/29/94	30	7.2	5.2	8.8
COYOTE HILL	4200	4/01/94	---	8.7e	4.0	9.5
CREVICE MOUNTAIN	8400	3/29/94	39	10.0	10.1	10.9
CRYSTAL LAKE PILLOW	6050	4/01/94	---	13.1	10.0	12.8
CRYSTAL LAKE	6050	3/31/94	38	13.8	9.8	14.5
DAD CREEK LAKE	8400	3/29/94	42	11.5	13.3	15.1
DAISY PEAK	7600	3/25/94	31	7.8	7.4	10.6
DALY CREEK PILLOW	5780	4/01/94	---	7.6	6.3	11.9
DALY CREEK	5780	3/31/94	29	8.4	9.2	12.3
DARKHORSE LK. PILLOW	8700	4/01/94	---	22.3	22.4	33.7
DARKHORSE LAKE	8600	3/29/94	54	17.7	19.4	27.0
DAVIS CREEK	5400	3/29/94	59	22.8	18.1	24.3
DEADMAN CR PILLOW	6450	4/01/94	---	10.3	7.9	10.2
DEADMAN CREEK	6450	3/29/94	38	11.2	8.2	11.3
DESERT MOUNTAIN	5600	3/27/94	32	10.8	11.1	15.5
DEVILS SLIDE	8100	3/28/94	54	15.0	15.7	22.1
DISCOVERY BASIN	7050	3/30/94	25	7.4	7.3	11.3
DIVIDE PILLOW	7800	4/01/94	---	7.9	11.9	11.3
DIVIDE	7800	3/30/94	27	7.4	11.2	11.6
DIX HILL	6400	4/02/94	16	5.6	5.9	11.3
DUPUYER CREEK PILLOW	5750	4/01/94	---	10.4	9.3	12.9
EAGLE CREEK	7000	3/28/94	38	11.4	8.8	14.4
EAST FORK R.S.	5400	3/26/94	6	1.8	.8	5.6
EL DORADO MINE	7800	3/26/94	51	14.4	13.8	21.6
ELK HORN SPRINGS	7800	3/28/94	19	4.8	6.4	9.3
ELK PEAK	8000	3/30/94	48	12.6	12.4	17.3
EMERY CREEK PILLOW	4350	4/01/94	---	13.4	10.9	16.3
EMERY CREEK	4350	3/27/94	37	14.2	13.1	15.7
FATTY CREEK	5500	3/31/94	50	18.4	18.0	24.3
FISH CREEK	8000	3/25/94	41	8.0	8.1	9.9
FISHER CREEK PILLOW	9100	4/01/94	---	26.7	28.3	36.1
FISHER CREEK	9100	3/31/94	75	26.4	27.3	39.0
FIVE-BULL	5700	3/26/94	14	3.6	5.2	6.3
FLATTOP MTN PILLOW	6300	4/01/94	---	38.7	29.0	47.1

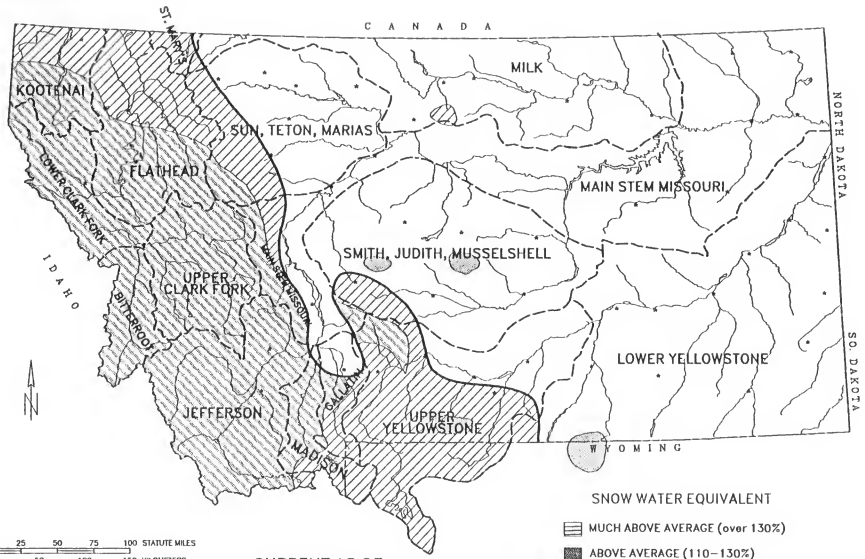
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
FLEECER RIDGE	7500	3/30/94	28	7.8	5.8	11.3
FOOLHEN	8280	3/28/94	40	9.4	10.5	17.1
FOREST LAKE	6400	3/28/94	33	9.2	8.4	12.6
FOUR MILE	6900	3/29/94	20	5.8	5.0	8.9
FRED BURR PASS	8000	3/31/94	52	16.4	15.6	25.4
FREIGHT CREEK	6000	3/27/94	37	12.0	8.8	15.5
FROHNER MDWS PILLOW	6480	4/01/94	---	5.7	6.0	8.7
FROHNER MEADOWS	6480	3/31/94	19	5.6	4.8	8.4
GARVER CREEK PILLOW	4250	3/29/94	---	10.3	7.8	10.1
GARVER CREEK	4250	3/29/94	29	11.6	9.6	10.2
GIBBONS PASS	7100	3/29/94	44	13.6	16.6	23.2
GOAT MOUNTAIN	7000	3/28/94	26	7.3	8.1	10.5
GOLD CREEK LAKE	7200	3/26/94	36	9.6	10.8	15.9
GOLD STONE	8100	3/29/94	42	12.2	11.8	17.4
GRASSHOPPER	7000	3/30/94	17	4.4	4.6	6.2
GRAVE CRK PILLOW	4300	4/01/94	---	13.2	9.4	16.7
GRAVE CREEK	4300	3/29/94	33	13.3	11.0	17.0
GRIFFIN CR DIVIDE	5150	3/28/94	18	5.6	7.2	11.2
GUNSIGHT LAKE	6300	3/27/94	82	32.1	29.5	40.0
HAND CREEK PILLOW	5030	4/01/94	---	8.4	9.6	13.3
HAND CREEK	5030	3/30/94	25	7.2	8.8	13.6
HAWKINS LAKE PILLOW	6450	4/01/94	---	17.1	15.8	29.0
HAWKINS LAKE	6450	3/29/94	60	21.4	21.2	31.0
HAYMAKER	8050	3/29/94	40	8.8	7.7	12.7
HEART LAKE TRAIL	4800	3/28/94	44	13.8	15.6	21.6
HEBGEN DAM	6550	3/31/94	29	9.1	11.9	12.1
HELL ROARING DIVIDE	5770	3/29/94	61	23.5	21.4	31.0
HERRIG JUNCTION	4850	3/29/94	59	22.0	20.1	26.0
HOLBROOK	4530	4/01/94	17	6.4	7.5	9.0
HOODOO BASIN PILLOW	6050	4/01/94	---	29.3	31.3	47.0
HOODOO BASIN	6050	3/28/94	89	30.4	32.2	51.0
HOODOO CREEK	5900	3/28/94	76	25.2	29.2	46.3
INDEPENDENCE	7850	3/30/94	43	14.7	13.6	18.3
INTERGAARD	6450	3/29/94	19	5.7	3.3	8.6
JAHNKE LAKE TRAIL	7200	3/29/94	25	6.4	7.4	10.0
JOHNSON PARK	6450	3/25/94	17	4.1	4.2	6.9
KEELER CREEK	3300	3/29/94	24	9.4	9.8	10.8
KINGS HILL	7500	3/29/94	46	12.0	10.7	14.5
KISHENEHN	3890	3/27/94	24	7.0	6.6	7.0
KIWANIS CAMP	3720	3/28/94	0	.0	.0	.8
KRAFT CREEK PILLOW	4750	4/01/94	---	9.1	9.3	15.3
LAKE CREEK	6100	3/29/94	21	6.2	8.4	8.5
LAKEVIEW CANYON	6930	3/28/94	21	5.0	11.3	12.3
LAKEVIEW RDG. PILLOW	7400	4/01/94	---	6.5	13.7	13.0
LAKEVIEW RIDGE	7400	3/28/94	21	5.5	11.1	11.1
LEMHI RIDGE PILLOW	8100	4/01/94	---	9.3	9.0	11.1
LEMHI RIDGE	8100	3/29/94	35	9.4	9.0	10.7
LICK CREEK PILLOW	6860	4/01/94	---	8.8	8.7	14.4
LICK CREEK	6860	3/28/94	33	8.7	5.8	10.7
LITTLE PARK	7400	3/28/94	44	13.2	12.7	16.3
LOGAN CREEK	4300	3/30/94	17	5.0	6.1	7.1
LONE MOUNTAIN	8880	4/01/94	46	17.0	19.2	23.8
LOST HORSE	5940	3/30/94	53	20.2	24.6	32.3
LOST SOUL	4800	3/29/94	8	3.2	9.4	15.3
LOWER TWIN PILLOW	7900	4/01/94	---	10.6	14.0	18.6
LOWER TWIN	7900	3/29/94	42	13.2	15.1	22.1
LUBRECHT PILLOW	4680	4/01/94	---	.0	.0	5.1

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
LUBRECHT FLUME	4680	4/02/94	0	.0	.0	4.4
LUBRECHT FOREST NO 3	5450	4/02/94	6	1.7	3.0	6.8
LUBRECHT FOREST NO 4	4650	4/02/94	0	.0	.0	2.1
LUBRECHT FOREST NO 6	4040	4/02/94	0	.0	.0	2.3
LUBRECHT HYDROPLOT	4200	4/02/94	0	.0	.0	4.2
MADISON PLT PILLOW	7750	4/01/94	---	18.7	22.1	24.8
MADISON PLATEAU	7750	4/04/94	58	18.6	24.6	23.9
MANY GLACIER PILLOW	4900	4/01/94	---	14.7	10.9	16.6
MANY GLACIER	4900	3/28/94	51	18.4	14.4	18.8
MARIAS PASS	5250	3/31/94	39	14.8	13.0	17.4
MAYNARD CR PILLOW	6210	3/30/94	---	7.7	8.1	11.4
MAYNARD CREEK	6210	3/30/94	32	10.0	9.4	15.1
MIDDLE MILL CREEK	7850	3/29/94	31	9.5	9.0	16.6
MILL CREEK	7500	3/31/94	40	13.1	7.7	13.7
MINERAL CREEK	4000	3/25/94	48	18.6	9.8	17.5
MONUMENT PK PILLOW	8850	4/01/94	---	16.8	13.5	21.4
MONUMENT PEAK	8850	3/30/94	58	19.2	20.7	26.5
MOSS PEAK PILLOW	6780	4/01/94	---	25.9	31.2	38.4
MOULTON RESERVOIR	6850	3/25/94	19	5.8	5.4	6.8
MT LOCKHART PILLOW	6400	4/01/94	---	16.2	15.1	21.5
MOUNT LOCKHART	6400	3/31/94	54	19.6	17.2	23.1
MUDD LAKE	7650	3/30/94	39	12.0	15.1	20.0
MULE CREEK PILLOW	8300	4/01/94	---	10.0	13.3	16.2
MULE CREEK	8300	3/28/94	36	9.7	12.2	15.9
NEVADA CREEK PILLOW	6480	4/01/94	---	9.0	11.4	13.4
NEVADA CREEK	6480	3/30/94	34	10.0	11.4	14.4
NEW WORLD	6900	3/29/94	37	11.0	9.4	15.7
NEWTON MOUNTAIN	5600	3/28/94	70	26.6	24.3	35.6
NEZ PERCE CMP PILLOW	5650	4/01/94	---	10.9	10.1	15.1
NEZ PERCE CAMP	5650	3/29/94	34	12.0	10.0	15.2
NEZ PERCE CREEK	6600	3/28/94	17	3.9	5.0	7.1
NEZ PERCE PASS	6570	3/29/94	33	12.1	9.8	17.1
NOISY BASIN PILLOW	6040	4/01/94	---	28.7	33.6	40.7
NOISY BASIN	6040	3/30/94	78	31.2	40.0	45.4
N.F. ELK CR PILLOW	6250	4/01/94	---	8.3	8.1	13.2
N.F. ELK CREEK	6250	4/04/94	34	8.1	7.9	13.0
NF JOCKO PILLOW	6330	4/01/94	---	30.6	33.0	47.7
NORTH FORK JOCKO	6330	3/31/94	72	29.2	30.9	44.9
N.E. ENTRANCE PILLOW	7350	4/01/94	---	7.1	6.4	9.2
NORTHEAST ENTRANCE	7350	4/02/94	12	2.8	5.8	9.1
NOTCH	8500	3/30/94	43	11.4	15.8	16.4
OPHIR PARK	7150	4/02/94	34	10.2	10.4	18.0
PALISADE CREEK	8250	3/30/94	54	18.4	22.2	29.9
PETERSON MDW PILLOW	7200	3/30/94	---	7.3	7.2	11.0
PETERSON MEADOWS	7200	3/30/94	26	6.5	7.2	10.8
PICKET PIN LOWER	6200	3/30/94	10	1.8	1.0	3.0
PICKET PIN MIDDLE	7250	3/30/94	28	7.4	4.8	13.4
PICKET PIN UPPER	8100	3/30/94	61	16.2	11.2	20.9
PICKFOOT CRK PILLOW	6650	4/01/94	---	7.5	7.3	11.0
PICKFOOT CREEK	6650	3/28/94	27	7.5	5.8	10.5
PIKE CREEK PILLOW	5930	4/01/94	---	22.7	21.3	27.9
PIKE CREEK	5930	3/31/94	54	20.8	18.7	26.7
PIPESTONE PASS	7200	3/29/94	18	4.2	2.5	5.9
PLACER BASIN PILLOW	8830	4/01/94	---	18.5	16.2	19.1
POORMAN CREEK	5100	3/29/94	52	21.0	24.2	34.4
PORCUPINE PILLOW	6500	4/01/94	---	3.8	5.2	7.4

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
PORCUPINE	6500	4/01/94	12	2.9	3.8	8.0
POTOMAGETON PARK	7150	3/31/94	28	8.5	11.9	14.6
RED MOUNTAIN	6000	3/30/94	43	14.3	14.4	18.9
RED TOP	5260	3/28/94	58	22.0	20.5	29.0
REVAIS CREEK	4800	3/29/94	0	.0	1.6	2.1
ROCK CREEK	5600	3/31/94	27	11.0	7.5	10.6
ROCK CREEK MEADOW	8160	3/31/94	55	16.4	18.0	22.0
ROCKER PEAK PILLOW	8000	4/01/94	---	11.0	10.9	15.3
ROCKER PEAK	8000	3/31/94	34	9.0	10.0	15.5
ROCKY BOY PILLOW	4700	3/28/94	---	5.8	4.9	4.9
ROCKY BOY	4700	3/28/94	10	3.0	2.0	4.4
SACAJAWEA	6550	3/29/94	32	10.6	10.4	14.6
SADDLE MTN PILLOW	7900	4/01/94	---	15.8	18.9	26.1
SADDLE MOUNTAIN	7940	3/29/94	51	15.9	18.0	25.6
SHORT CREEK PILLOW	7000	4/01/94	---	4.8	5.2	6.3
SHOWER FALLS PILLOW	8100	4/01/94	---	18.3	18.4	23.8
SHOWER FALLS	8100	3/28/94	57	16.1	16.4	23.6
SILVER RUN PILLOW	6630	4/01/94	---	4.4	2.1	6.8
SILVER RUN	6630	4/04/94	22	4.7	1.5	5.2
SKALKAHO PILLOW	7260	4/01/94	---	13.7	16.6	24.9
SKALKAHO SUMMIT	7250	3/31/94	46	15.2	16.6	25.9
SLAG-A-MELT LAKE	8750	3/28/94	49	15.6	17.8	25.8
SLIDE ROCK MOUNTAIN	7100	3/30/94	35	10.7	10.2	16.7
SMUGGLER MINE	6960	3/29/94	19	5.6	6.0	10.5
S.F. SHIELDS PILLOW	8100	4/01/94	---	11.9	14.2	17.9
S.F. SHIELDS	8100	4/01/94	47	15.4	18.4	25.0
SPOTTED BEAR MTN.	7000	3/27/94	30	9.6	11.0	14.9
SPUR PARK PILLOW	8100	4/01/94	---	20.5	18.3	22.2
SPUR PARK	8100	3/29/94	54	15.7	15.2	21.4
SQUAW PEAK	6150	3/29/94	32	11.5	14.8	16.0
STAHL PEAK PILLOW	6030	4/01/94	---	26.6	19.9	35.1
STAHL PEAK	6030	3/29/94	75	28.7	28.6	39.7
STEMPLE PASS	6600	4/02/94	26	7.2	8.4	10.6
STORM LAKE	7780	3/30/94	34	7.2	10.0	14.0
STRYKER BASIN	6180	3/29/94	68	23.1	25.9	34.6
STUART MOUNTAIN	7400	3/31/94	51	19.0	23.9	32.9
SUCKER CREEK	3960	3/28/94	0	.0	.0	.4
TAYLOR ROAD	4080	3/28/94	0	.0	1.6	2.2
TEN MILE LOWER	6600	4/02/94	19	5.8	5.0	7.8
TEN MILE MIDDLE	6800	4/02/94	33	8.6	8.4	12.2
TEPEE CREEK PILLOW	8000	4/01/94	---	9.6	15.3	13.4
TEPEE CREEK	8000	3/29/94	39	10.9	18.2	15.8
TIMBERLINE CREEK	8850	3/31/94	55	13.8	8.8	14.8
TIZER BASIN PILLOW	6840	4/01/94	---	8.6	6.8	12.0
TRAIL CREEK	7090	3/29/94	29	7.8	5.1	8.7
TRINKUS LAKE	6100	3/27/94	77	30.7	29.9	43.4
TRUMAN CREEK	4060	4/01/94	---	2.7E	2.9	3.5
TV MOUNTAIN	6800	3/31/94	34	10.9	13.7	19.2
TWELVEMILE PILLOW	5600	4/01/94	---	13.0	12.7	18.6
TWELVEMILE CREEK	5600	3/30/94	36	14.2	14.9	21.6
TWENTY-ONE MILE	7150	3/31/94	36	11.3	17.2	17.4
TWIN CREEKS	3580	3/27/94	22	7.3	5.0	10.3
TWIN LAKES	6510	3/30/94	72	29.0	31.0	41.7
UPPER HOLLAND LAKE	6200	3/27/94	69	24.4	28.6	35.4
WALDRON PILLOW	5600	4/01/94	---	10.7	9.1	11.3
WALDRON	5600	3/31/94	22	7.6	6.6	10.0
WARM SPRINGS PILLOW	7800	4/01/94	---	14.3	14.0	22.3

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
WARM SPRINGS	7800	3/31/94	43	13.4	12.4	19.8
WEASEL DIVIDE	5450	3/29/94	68	25.6	21.8	33.8
WEST YELL'ST PILLOW	6700	3/31/94	---	5.8	8.5	9.1
WEST YELLOWSTONE	6700	3/31/94	28	9.0	14.0	11.6
WHISKEY CREEK PILLOW	6800	4/01/94	---	13.0	16.9	17.5
WHISKEY CREEK	6800	4/04/94	46	15.8	20.5	21.5
WHITE MILL PILLOW	8700	4/01/94	---	19.0	17.8	25.1
WHITE MILL	8700	3/31/94	62	21.5	20.0	28.2
WHITE PINE RIDGE	8850	3/29/94	19	4.4	5.4	5.8
WILLOW CREEK	6500	3/30/94	28	6.5	2.0	9.5
WOOD CREEK PILLOW	5960	4/01/94	---	7.4	8.5	12.2
WOOD CREEK	5960	3/26/94	28	6.8	--	11.3
WRONG CREEK	5700	3/26/94	30	10.1	8.8	13.6
WRONG RIDGE	6800	3/26/94	41	13.4	13.1	19.4

MOUNTAIN SNOWWATER EQUIVALENT FOR MONTANA



0 25 50 75 100 STATUTE MILES
0 50 100 150 KILOMETERS

Albers Equal Area Projection
Approx Scale: 1:4,300,000

SOURCE
Information provided by SCS Snow Survey Personnel

CURRENT AS OF
APRIL 1, 1994

Note:
Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.

SNOW WATER EQUIVALENT

- MUCH ABOVE AVERAGE (over 130%)
- ABOVE AVERAGE (110–130%)
- NEAR AVERAGE (90–110%)
- BELOW AVERAGE (70–90%)
- MUCH BELOW AVERAGE (below 70%)
- NO MOUNTAIN SURVEY
- SCS Office Locations

SCS STATE OFFICE, BOZEMAN, MT. GRASS/MAPGEN 4.0

APRIL 1994

PRECIPITATION

March mountain precipitation, for the fourteen major river basins, during March was 38 percent below average and 14 percent below last year.

West of the Continental Divide, mountain precipitation during March was 40 percent below average and 15 percent below last year. East of the Continental Divide was 37 percent below average and 14 percent below last year. Water year precipitation west of the Continental Divide was 31 percent below average and 6 percent below last year and east of the Continental Divide was 20 percent below average and 4 percent below last year.

RIVER BASIN	MARCH % OF AVERAGE	WATER YEAR % OF AVERAGE
KOOTENAI	69	71
FLATHEAD	51	72
UPPER CLARK FORK	60	68
BITTERROOT	65	69
LOWER CLARK FORK	57	66
JEFFERSON	49	70
MADISON	49	73
GALLATIN	45	69
MAINSTEM MISSOURI	62	74
SMITH-JUDITH-MUSSELSHELL	69	89
SUN-TETON-MARIAS	69	78
ST. MARY AND MILK	70	85
UPPER YELLOWSTONE	56	79
LOWER YELLOWSTONE	101	108

RESERVOIRS

Reservoir storages state wide were 9 percent below average and 18 percent above last year.

West of the Continental Divide, reservoirs were 21 percent below average and 32 percent above last year. East of the Continental Divide, reservoirs were 8 percent above average and 8 percent above last year.

RIVER BASIN	% OF CAPACITY	% OF AVERAGE
KOOTENAI	41	110
FLATHEAD	28	52
UPPER CLARK FORK	85	119
BITTERROOT	19	43
LOWER CLARK FORK	79	114
JEFFERSON	69	117
MADISON	69	104
GALLATIN	39	98
MAINSTEM MISSOURI	74	100
SMITH-JUDITH-MUSSELSHELL	82	129
SUN-TETON-MARIAS	60	128
ST. MARY AND MILK	74	137
UPPER YELLOWSTONE	46	111
LOWER YELLOWSTONE	57	97

STREAMFLOW

Streamflow forecasts across Montana are 30 percent below average and 9 percent above last years forecasts.

West of the Continental Divide, streamflows are forecast to be 36 percent below average and 7 percent above last years forecasts. East of the Continental Divide, streamflows are forecast to be 26 percent below average and 10 percent above last years forecasts.

NOTE: The FORECASTS AS % OF LAST YEAR column above, is this years forecast as a percent of last years forecast, not of what actually occurred.

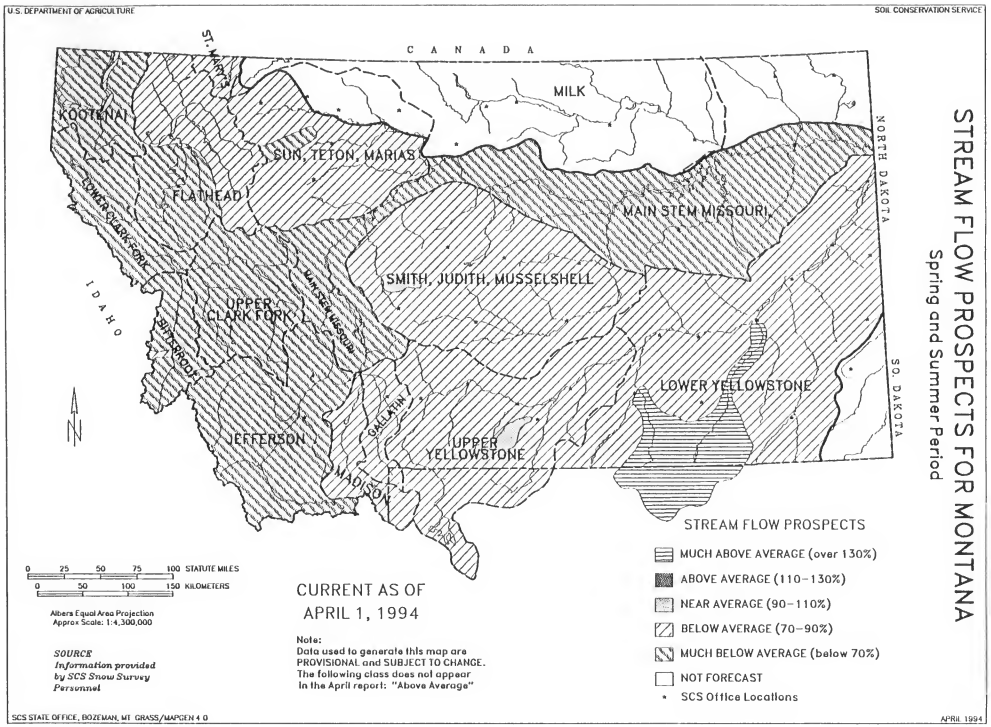
RIVER BASIN	FORECASTS % OF AVERAGE	FORECASTS % OF LAST YEAR
KOOTENAI	78	115
FLATHEAD	76	112
UPPER CLARK FORK	52	115
BITTERROOT	53	94
LOWER CLARK FORK	61	100
JEFFERSON	54	105
MADISON	74	87
GALLATIN	73	97
MAINSTEM MISSOURI	60	103
SMITH-JUDITH-MUSSELSHELL	78	118
SUN-TETON-MARIAS	73	130
ST. MARY AND MILK	78	--
UPPER YELLOWSTONE	86	114
LOWER YELLOWSTONE	89	125

NOTE: The FORECAST AS % OF LAST YEAR column above, is this years forecast as a percent of last years forecast, not of what actually occurred.

SURFACE WATER SUPPLY INDEX

The Surface Water Supply Index (SWSI) is an indicator of surface water supply conditions for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

SWSI RATING	SURFACE WATER CONDITION
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry


U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
STREAM FLOW PROSPECTS FOR MONTANA
Spring and Summer Period
C A N A D A
ST. MARY
MILK
KOOTENAI
SUN, TETON, MARIAS
FLATHEAD
LOWER CLARK FORK
MAIN STEM MISSOURI
NORTH DAKOTA
SMITH, JUDITH, MUSSELSHELL
I D A H O
UPPER CLARK FORK
UPPER MISSOURI
BITTERROOT
GALLATIN
LOWER YELLOWSTONE
SO. DAKOTA
JEFFERSON
UPPER YELLOWSTONE
MADISON
BIG HOLE
N
0 25 50 75 100 STATUTE MILES
0 50 100 150 KILOMETERS
Albers Equal Area Projection
Approx Scale: 1:4,300,000
SOURCE
Information provided by SCS Snow Survey Personnel
CURRENT AS OF APRIL 1, 1994
Note:
Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.
The following class does not appear in the April report: "Above Average"
STREAM FLOW PROSPECTS
MUCH ABOVE AVERAGE (over 130%)
ABOVE AVERAGE (110-130%)
NEAR AVERAGE (90-110%)
BELOW AVERAGE (70-90%)
MUCH BELOW AVERAGE (below 70%)
NOT FORECAST
SCS Office Locations
SCS STATE OFFICE, BOZEMAN, MT GRASS/MAPGEN 4.0
APRIL 1994

SWSI	Basin
-1.6	Kootenai River at Ft. Steele (Kootenai in Canada)
-2.7	Tobacco River
-2.9	Kootenai Ft. Steele to Libby Dam
-0.8	Kootenai River below Libby Dam
-3.1	Fisher River
-3.0	Yaak River
-2.8	North Fork Flathead River
-2.6	Middle FORK Flathead River
-3.2	South Fork Flathead River
-2.9	Flathead River at Columbia Falls
-3.2	Stillwater/Whitefish Rivers
-3.5	Swan River
-3.0	Flathead River at Polson
-3.2	Mission Valley
-2.5	Little Bitterroot River
-3.4	Clark Fork River above Rock Creek
-3.0	Blackfoot River
-3.0	Clark Fork River above Missoula
-3.4	Bitterroot River
-3.1	Clark Fork River below Bitterroot River
-3.0	Clark Fork River below Flathead River
-1.0	Beaverhead River
-2.3	Ruby River
-3.0	Big Hole River
-3.4	Boulder River (Jefferson)
-2.6	Jefferson River
-1.6	Madison River
-2.0	Gallatin River
-2.1	Missouri River above Canyon Ferry
-2.0	Missouri River below Canyon Ferry
-1.2	Smith River
-1.9	Sun River
-1.8	Teton River
0.5	Birch/Dupuyer Creeks
-1.6	Marias River
-0.1	Musselshell River
-1.0	Missouri River above Ft. Peck
-0.3	Missouri River below Ft. Peck
1.5	Milk River
-2.0	Yellowstone River above Livingston
-2.4	Shields River
-2.5	Boulder River (Yellowstone)
-1.9	Stillwater River
-1.7	Rock/Red Lodge Creeks
-1.8	Clarks Fork River
-1.9	Yellowstone River above Bighorn River
-0.8	Bighorn River below Bighorn Lake
2.5	Little Bighorn River
-1.7	Yellowstone River below Bighorn River
1.6	Tongue River
0.0	Powder River

KOOTENAI RIVER BASIN in Montana as of April 1, 1994

Snowpack conditions in the Kootenai River Basin in Montana were well below average and in the Kootenai River Basin in British Columbia, Canada, were below average. Snow water content in Montana was 32 percent below average and 1 percent below last year and in British Columbia, Canada, 22 percent below average and 30 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
EAST KOOTENAI in B.C.	17	130	78
KOOTENAI MAINTSTEM in MT	21	99	68
TOBACCO	3	128	76
FISHER	5	89	62
YAAK	7	110	76
KOOTENAI in MT	21	99	68
KOOTENAI ab Bonners Ferry	38	108	71

Mountain precipitation during March was 31 percent below average and 11 percent above last year. Water year precipitation, beginning October 1, 1993, was 29 percent below average and 3 percent above last year.

Lake Koocanusa storage, on the last day of March, was 10 percent above average and 69 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
LAKE KOOCANUSA	5748.0	2364.0	1402.0	2141.0

Streamflows, for the period April through July, are forecast to be 22 percent below average and 15 percent above last years forecasts.

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
			Chance of Exceeding *				
TOBACCO nr Eureka							
APR-JUL	64	77	86	65	95	108	133
APR-SEP	69	85	95	65	106	121	147
KOOTENAI bl Libby Dam (1,2)							
APR-JUL	3590	4350	4700	81	5050	5810	5779
APR-SEP	4210	5100	5510	81	5920	6810	6772
FISHER nr Libby							
APR-JUL	105	124	136	58	149	167	234
APR-SEP	117	135	148	59	161	179	250

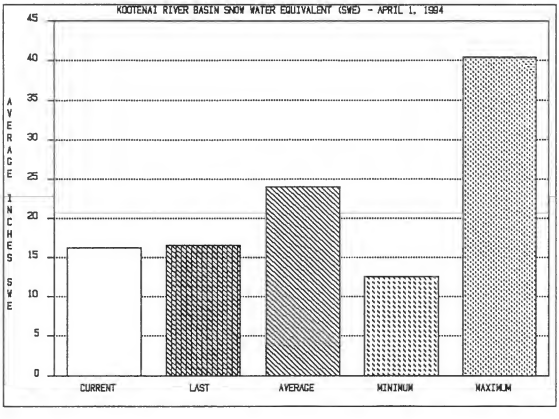
Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YAAK near Troy							
APR-JUL	240	285	312	65	340	385	483
APR-SEP	255	300	330	65	360	405	505
KOOTENAI at Leonia (1,2)							
APR-JUL	4150	5090	5520	77	5950	6890	7199
APR-SEP	4770	5860	6350	77	6840	7930	8275

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.6 in the Kootenai River at Ft. Steele (Kootenai in Canada); -2.7 in the Tobacco River; -2.9 in the Kootenai Ft. Steele to Libby Dam; -0.8 in the Kootenai River below Libby Dam; -3.1 in the Fisher River; and -3.0 in the Yaak River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1974.

FLATHEAD RIVER BASIN as of April 1, 1994

Snowpack conditions in the Flathead River Basin were below average. Snow water content was 28 percent below average and 1 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
NORTH FORK FLATHEAD	11	117	79
MIDDLE FORK FLATHEAD	9	119	80
SOUTH FORK FLATHEAD	10	95	72
STILLWATER-WHITEFISH	8	97	72
SWAN	10	89	67
MISSION VALLEY	5	88	65
LITTLE BITTERROOT-ASHLEY	9	86	63
JOCKO	5	83	61
FLATHEAD	45	101	72

Mountain precipitation during March was 49 percent below average and 27 percent below last year. Water year precipitation, beginning October 1, 1993, was 28 percent below average and 3 percent below last year.

Reservoir storage, on the last day of March, was 48 percent below average and 7 percent above last year. Combined Camas reservoir storage was 10 percent below average and 14 percent above last year; the combined Mission Valley reservoir storage was 11 percent below average and 27 percent above last year; Hungry Horse storage was 60 percent below average and 16 percent above last year; and Flathead Lake storage was 18 percent below average and 4 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
CAMAS (4)	45.2	21.4	18.7	23.7
MISSION VALLEY (8)	100.0	36.5	28.7	40.9
HUNGRY HORSE	3451.0	811.8	699.0	2046.0
FLATHEAD LAKE	1791.0	616.0	642.0	751.9

Streamflows, for the period April through July, are forecast to be 24 percent below average and 12 percent above last years forecasts.

Streamflow Forecasts

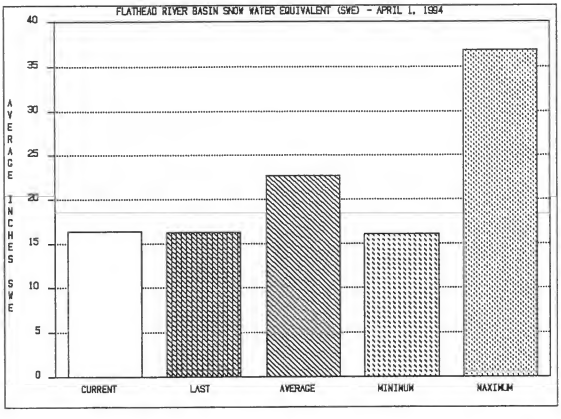
Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
NF FLATHEAD nr Columbia Falls							
APR-JUL	1140	1250	1320	79	1390	1500	1662
APR-SEP	1270	1390	1465	80	1550	1660	1836
MF FLATHEAD nr West Glacier							
APR-JUL	1040	1170	1260	77	1350	1480	1638
APR-SEP	1140	1280	1380	77	1480	1620	1788
SF FLATHEAD nr Columbia Fls (1,2)							
APR-JUL	1220	1430	1520	74	1610	1820	2051
APR-SEP	1300	1530	1630	75	1730	1960	2184
FLATHEAD at Columbia Falls (2)							
APR-JUL	3610	3940	4160	76	4380	4710	5482
APR-SEP	3910	4280	4530	76	4780	5150	5960
STILLWATER nr Whitefish							
APR-JUL	129	141	149	79	157	169	189
APR-SEP	143	157	167	80	177	191	209
WHITEFISH nr Kalispell							
APR-JUL	56	65	72	69	79	89	104
APR-SEP	65	75	82	71	89	99	116
SWAN nr Bigfork							
APR-JUL	315	355	384	66	415	455	583
APR-SEP	355	405	440	66	475	525	665
FLATHEAD nr Polson (1,2)							
APR-JUL	3900	4570	4880	76	5190	5860	6390
APR-SEP	4150	4930	5280	76	5630	6410	6926

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -2.8 in the North Fork Flathead River; -2.6 in the Middle Fork Flathead River; -3.2 in the South Fork Flathead River; -2.9 in the Flathead River at Columbia Falls; -3.2 in the Stillwater/Whitefish Rivers; -3.5 in the Swan River; -3.0 in the Flathead River at Polson; -3.2 in the Mission Valley; and -2.5 in the Little Bitterroot River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1992.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1972.

UPPER CLARK FORK RIVER BASIN as of April 1, 1994

Snowpack conditions in the Upper Clark Fork River Basin were well below average. Snow water content was 37 percent below average and 3 percent below last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
CLARK FORK ab FLINT CREEK	19	105	69
FLINT CREEK	8	101	63
ROCK CREEK	6	85	59
CLARK FORK ab BLACKFOOT	29	100	66
BLACKFOOT	16	92	57
UPPER CLARK FORK	42	97	63

Mountain precipitation during March was 40 percent below average and 12 percent below last year. Water year precipitation, beginning October 1, 1993, was 32 percent below average and 13 percent below last year.

Reservoir storage, on the last day of March, was 19 percent above average and 25 percent above last year. Georgetown Lake storage was 10 percent above average and 8 percent above last year; Lower Willow Creek storage was 109 percent above average and 200 percent above last year; and Nevada Creek storage was 22 percent above average and 71 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
GEORGETOWN LAKE	31.0	27.3	25.3	24.8
LOWER WILLOW CREEK		NO REPORT		
NEVADA CREEK	12.6	8.9	5.2	7.3

Streamflows, for the period April through July, are forecast to be 48 percent below average and 15 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MOULTON RES inflow (million gal.)							
APR-JUN	38	80	108	51	137	178	212
APR-JUL	32	80	113	48	146	194	234
WARM SPRINGS CK at Anaconda (2)							
APR-JUL	15.0	22	26	68	30	37	38
APR-SEP	21	28	33	70	38	46	47

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
			Chance of Exceeding *				
LITTLE BLACKFOOT nr Garrison							
APR-JUL	12.0	40	58	70	76	104	83
APR-SEP	15.0	44	64	72	84	113	89
FLINT CK nr Southern Cross (2)							
APR-JUL	4.6	7.7	9.8	69	11.9	15.0	14.2
APR-SEP	5.2	9.1	11.8	71	14.5	18.4	16.7
FLINT CK bl Boulder Ck							
APR-JUL	20	31	39	68	47	58	57
APR-SEP	29	43	52	71	61	75	73
LOWER WILLOW CK RES inflow							
APR-JUL	1.9	5.3	7.6	54	9.9	13.3	14.0
APR-SEP	2.4	5.9	8.3	56	10.7	14.2	14.8
MF ROCK CK nr Philipsburg							
APR-JUL	20	28	33	50	38	46	66
APR-SEP	24	32	38	51	44	52	74
ROCK CK nr Clinton							
APR-JUL	91	126	150	51	174	210	296
APR-SEP	109	148	175	53	200	240	333
NEVADA CK nr Finn							
APR-JUL	3.7	8.9	12.5	65	16.1	21	19.1
APR-SEP	4.0	10.0	14.0	65	17.0	23	21
CLEARWATER nr Clearwater							
APR-JUL	80	91	99	58	107	118	172
APR-SEP	85	96	104	57	112	123	181
BLACKFOOT nr Bonner							
APR-JUL	315	395	450	54	505	585	835
APR-SEP	365	455	515	56	575	665	926
CLARK FORK ab Milltown							
APR-JUL	93	220	310	48	400	525	652
APR-SEP	127	270	370	49	470	615	755

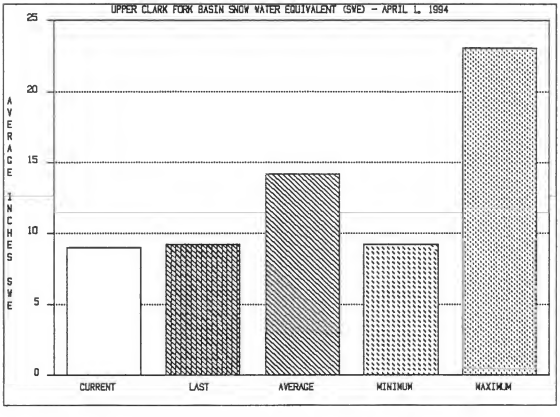
Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
CLARK FORK ab Missoula							
APR-JUL	450	640	770	52	900	1090	1487
APR-SEP	520	730	875	52	1020	1230	1681

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -3.4 in the Clark Fork River above Rock Creek; -3.0 in the Blackfoot River; and -3.0 in the Clark Fork River above Missoula.



AVERAGE IS FOR THE PERIOD 1960-1990.

MINIMUM SNOW WATER EQUIVALENT OCCURRED IN WATER YEAR 1994.

MAXIMUM SNOW WATER EQUIVALENT OCCURRED IN WATER YEAR 1972.

BITTERROOT RIVER BASIN as of April 1, 1994

Snowpack conditions in the Bitterroot River Basin were well below average. Snow water content was 37 percent below average and 6 percent below last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WEST FORK BITTERROOT	5	103	66
EAST SIDE BITTERROOT	5	90	57
WEST SIDE BITTERROOT	5	90	64
BITTERROOT	15	94	63

Mountain precipitation during March was 35 percent below average and 32 percent below last year. Water year precipitation, beginning October 1, 1993, was 31 percent below average and 9 percent below last year.

Reservoir storage, on the last day of March, was 37 percent below average and 36 percent above last year. Painted Rocks Lake storage was 76 percent below average and 32 percent above last year and Como storage was 41 percent below average and 38 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
PAINTED ROCKS LAKE	31.7	3.3	2.5	13.6
COMO	34.9	9.1	6.6	15.5

Streamflows, for the period April through July, are forecast to be 47 percent below average and 6 percent below last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	50% (Most Prob) (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
WF BITTERROOT nr Conner (2)							
APR-JUL	42	62	75	49	89	108	152
APR-SEP	44	66	80	48	94	116	166
BITTERROOT nr Darby							
APR-JUL	180	235	274	56	310	370	491
APR-SEP	220	275	313	58	350	410	540
ROCK CK nr Darby (2)							
APR-JUL	47	54	59	75	64	72	79
APR-SEP	50	57	62	75	67	75	83

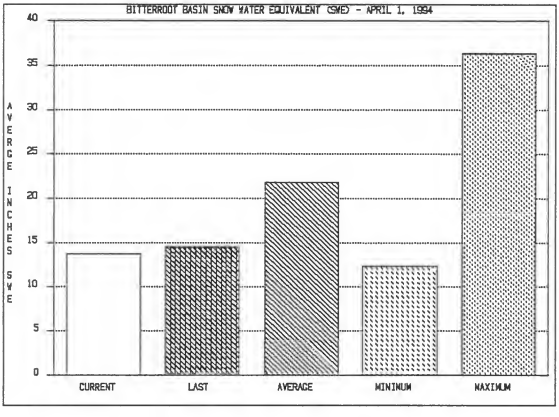
Forecast Pt Forecast Period	<--- Drier --- 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	--- Wetter ---> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
SKALKAHO CK nr Hamilton							
APR-JUL	15.0	20	24	52	28	33	46
APR-SEP	20	26	30	57	34	40	53
BURNT FORK CK nr Stevensville (2)							
APR-JUL	8.0	13.0	16.0	54	19.0	23	29
APR-SEP	11.0	16.0	20	57	23	28	34
BITTERROOT at Missoula							
APR-JUL	465	585	670	51	755	875	1301
APR-SEP	510	640	730	51	820	950	1418

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -3.4 in the Bitterroot River.



AVERAGE IS FOR THE PERIOD 1960-1990.

MINIMUM SNOW WATER EQUIVALENT OCCURRED IN WATER YEAR 1992.

MAXIMUM SNOW WATER EQUIVALENT OCCURRED IN WATER YEAR 1972.

LOWER CLARK FORK RIVER BASIN as of April 1, 1994

Snowpack conditions in the Lower Clark Fork River Basin were well below average. Snow water content was 38 percent below average and 13 percent below last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
UPPER CLARK FORK	42	97	63
BITTERROOT	15	94	63
LOWER CLARK FORK	16	87	62
CLARK FORK TOTAL	68	94	63
FLATHEAD	45	101	72
PEND OREILLE	108	98	68

Mountain precipitation during March was 43 percent below average and 17 percent below last year. Water year precipitation, beginning October 1, 1993, was 34 percent below average and 8 percent below last year.

Noxon Rapids storage, on the last day of March, was 14 percent above average and 18 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
NOXON RAPIDS	335.0	264.0	322.8	231.3

Streamflows, for the period April through July, are forecast to be 39 percent below average and the same as last years forecasts.

Streamflow Forecasts

Forecast Pt / Forecast Period	<--- Drier --- 90% (1000AF)	70% (1000AF)	Future Conditions — Chance of Exceeding * — 50% (Most Prob) (1000AF) (% AVG.)	--- Wetter ---> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
CLARK FORK ab Missoula						
APR-JUL	450	640	770 52	900	1090	1487
APR-SEP	520	730	875 52	1020	1230	1681
CLARK FORK bl Missoula						
APR-JUL	950	1240	1440 52	1640	1930	2788
APR-SEP	1080	1400	1620 52	1840	2160	3099
CLARK FORK at St. Regis (1)						
APR-JUL	885	1550	1850 50	2150	2810	3686
APR-SEP	1000	1740	2070 51	2400	3140	4095

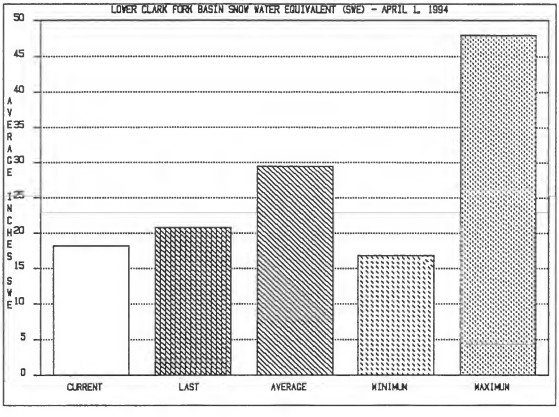
Forecast Pt Forecast Period	<--- Drier --- Future Conditions --- Wetter ---> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
CLARK FORK nr Plains (1,2)							
APR-JUL	4730	6150	6800	65	7450	8870	10450
APR-SEP	5190	6760	7470	65	8180	9750	11470
THOMPSON RIVER nr Thompson Falls							
APR-JUL	57	84	102	48	120	147	214
APR-SEP	72	101	120	50	139	168	240
PROSPECT CREEK at Thompson Falls							
APR-JUL	44	54	61	50	68	78	123
APR-SEP	49	60	67	51	74	85	132
CLARK FK at Whitehorse Rpds (1,2)							
APR-JUL	4930	6590	7340	63	8090	9750	11730
APR-SEP	5430	7250	8080	63	8910	10700	12910

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -3.1 in the Clark Fork River below Bitterroot River and -3.0 in the Clark Fork River below Flathead River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1972.

JEFFERSON RIVER BASIN as of April 1, 1994

Snowpack conditions in the Jefferson River Basin were well below average. Snow water content was 35 percent below average and 14 percent below last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
BEAVERHEAD	17	79	68
RUBY	10	84	63
BIGHOLE	21	91	64
BOULDER	9	100	72
JEFFERSON	46	86	65

Mountain precipitation during March was 51 percent below average and 40 percent below last year. Water year precipitation, beginning October 1, 1993, was 30 percent below average and 18 percent below last year.

Reservoir storage, on the last day of March, was 17 percent above average and 99 percent above last year. Lima storage was 46 percent above average and 768 percent above last year; Clark Canyon storage was 11 percent above average and 80 percent above last year; and Ruby River storage was 17 percent above average and 22 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
LIMA	84.0	53.8	6.2	36.9
CLARK CANYON	255.6	170.1	94.6	153.6
RUBY RIVER	38.8	36.4	29.7	31.2

Streamflows, for the period April through July, are forecast to be 46 percent below average and 5 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
RED ROCK RIVER near Monida (2)							
APR-JUL	36	47	54	56	61	72	97
APR-SEP	34	48	57	54	66	80	105
BEAVERHEAD RIVER near Grant (2)							
APR-JUL	28	50	65	49	80	102	132
APR-SEP	12.0	51	78	50	105	144	155

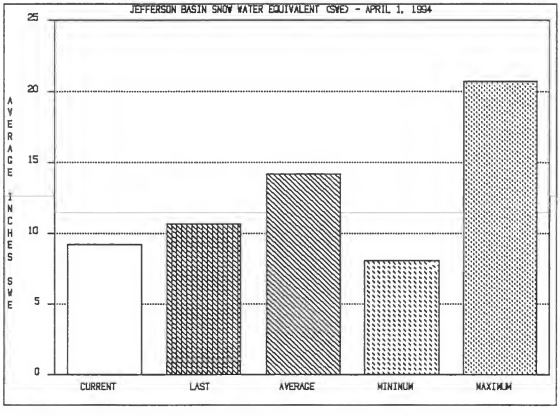
Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
BEAVERHEAD RIVER at Barretts (2)							
APR-JUL	62	81	94	55	107	127	172
APR-SEP	77	99	114	56	129	151	203
RUBY RIVER near Alder							
APR-JUL	23	40	51	61	63	79	83
APR-SEP	30	50	63	64	77	96	99
BIG HOLE RIVER near Melrose							
APR-JUL	205	305	376	59	445	550	641
APR-SEP	225	335	410	59	485	595	697
BOULDER RIVER near Boulder							
APR-JUL	28	43	53	62	63	78	85
APR-SEP	31	46	56	62	66	82	91
WILLOW CREEK near Harrison							
APR-JUL	4.4	5.3	6.8	38	10.0	14.7	17.7
APR-SEP	5.2	6.2	7.9	40	11.6	17.1	20
JEFFERSON RIVER near Three Forks (2)							
APR-JUL	182	340	450	49	560	720	920
APR-SEP	197	365	480	47	595	765	1012

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -2.6 in the Jefferson River; -1.0 in the Beaverhead River; -2.3 in the Ruby River; -3.0 in the Big Hole River; and -3.4 in the Boulder River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1972.

MADISON RIVER BASIN as of April 1, 1994

Snowpack conditions in the Madison River Basin were below average. Snow water content was 30 percent below average and 22 percent below last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MADISON above HEBGEN	7	78	74
LOWER MADISON	10	79	66
MADISON	17	78	70

Mountain precipitation during March was 51 percent below average and 25 percent below last year. Water year precipitation, beginning October 1, 1993, was 27 percent below average and 24 percent below last year.

Reservoir storage, on the last day of March, was 4 percent above average and 4 percent below last year. Ennis Lake storage was 9 percent below average and 2 percent above last year and Hebgen Lake storage was 5 percent above average and 4 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
ENNIS LAKE	41.0	30.1	29.5	33.2
HEBGEN LAKE	377.5	259.9	271.2	246.6

Streamflows, for the period April through July, are forecast to be 26 percent below average and 13 percent below last years forecasts.

Streamflow Forecasts

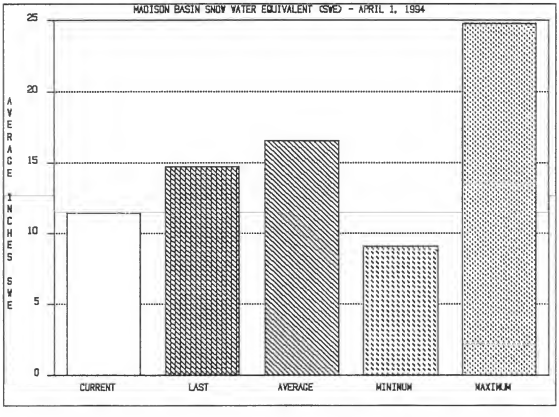
Forecast Pt / Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
MADISON RIVER near Grayling (2)							
APR-JUL	250	280	302	79	325	355	380
APR-SEP	335	370	397	82	425	460	486
MADISON RIVER near McAllister (2)							
APR-JUL	385	435	467	71	500	550	662
APR-SEP	505	560	596	72	635	690	831

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.6 in the Madison River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1974.

GALLATIN RIVER BASIN as of April 1, 1994

Snowpack conditions in the Gallatin River Basin were below average. Snow water content was 28 percent below average and 7 percent below last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
UPPER GALLATIN	10	88	72
EAST GALLATIN	8	105	72
GALLATIN	15	93	72

Mountain precipitation during March was 55 percent below average and 42 percent below last year. Water year precipitation, beginning October 1, 1993, was 31 percent below average and 19 percent below last year.

Middle Creek storage, on the last day of March, was 2 percent below average and 67 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage This Year	Last Year	********* Average
MIDDLE CREEK	10.2	4.0	2.4	4.1

Streamflows, for the period April through July, are forecast to be 27 percent below average and 3 percent below last years forecasts.

Streamflow Forecasts

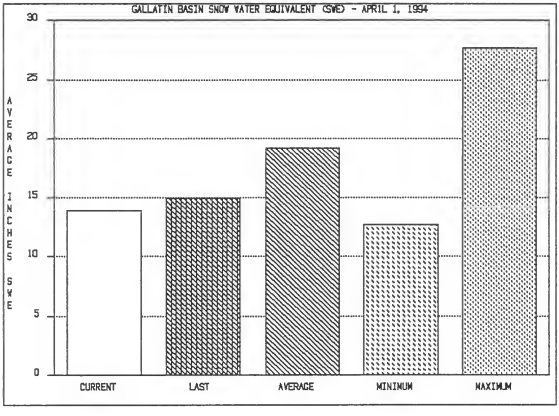
Forecast Pt Forecast Period	<--- Drier --- 90% (1000AF)	70% (1000AF)	Future Conditions --- Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	--- Wetter ---> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
GALLATIN RIVER near Gateway							
APR-JUL	265	305	330	75	355	395	441
APR-SEP	325	365	395	76	425	465	518
E & W FK HYALITE CREEK near Bozeman							
APR-JUL	13.0	15.0	17.0	73	18.0	21	23
APR-SEP	15.0	18.0	20	75	21	24	26
HYALITE CREEK near Bozeman (2)							
APR-JUL	19.0	23	26	72	29	33	36
APR-SEP	23	28	31	74	34	39	42
GALLATIN RIVER at Logan							
APR-JUL	220	300	355	71	410	490	498
APR-SEP	280	365	425	73	485	570	581

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -2.0 in the Gallatin River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1987.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1971.

MAINSTEM MISSOURI RIVER BASIN as of April 1, 1994

Snowpack conditions in the Mainstem Missouri River Basin were below average. Snow water content was 22 percent below average and 9 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MISSOURI HEADWATERS	72	87	68
WEST SIDE MISSOURI	7	97	68
SMITH-BELT	7	108	82
MAINSTEM MISSOURI	41	109	78
SUN-TETON-MARIAS	14	109	75
JUDITH-MUSSELSHELL	13	115	84
MISSOURI above FORT PECK	105	93	71
MILK RIVER	8	114	84
MISSOURI in MONTANA	110	94	71
MISSOURI blw YELLOWSTONE	186	102	76

Mountain precipitation during March was 38 percent below average and 4 percent above last year. Water year precipitation, beginning October 1, 1993, was 26 percent below average and 10 percent below last year.

Reservoir storage, on the last day of March, was average and the same as last year. Canyon Ferry Lake storage was 1 percent below average and the same as last year; Lake Helena storage was 7 percent above average and 2 percent above last year; Hauser & Helena storage was 3 percent above average and 1 percent above last year; Holter Lake storage was 20 percent above average and 1 percent below last year; and Fort Peck Lake storage was 5 percent above average and 44 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
CANYON FERRY LAKE	2043.0	1469.0	1468.0	1489.0
HELENA VALLEY		NO REPORT		
LAKE HELENA	10.4	10.9	10.7	10.2
HAUSER & HELENA	61.9	63.1	62.5	61.0
HOLTER LAKE	81.9	80.5	81.4	67.2
FORT PECK LAKE (MAF)	18.9	15.6	10.8	14.9

Streamflows, for the period April through July, are forecast to be 40 percent below average and 3 percent above last years forecasts.

Streamflow Forecasts

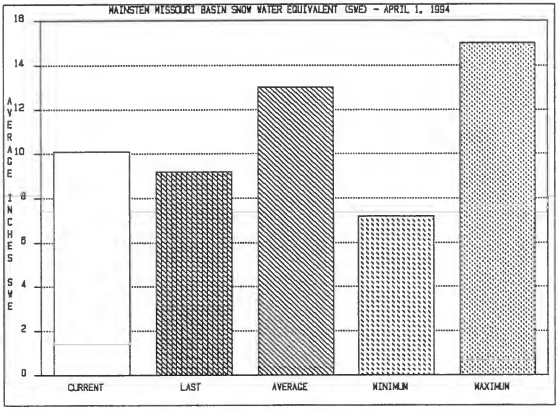
Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
			Chance of Exceeding *				
MISSOURI RIVER at Toston (2)							
APR-JUL	635	1050	1330	64	1610	2030	2075
APR-SEP	1010	1250	1540	64	1830	2100	2416
PRICKLY PEAR CREEK near Clancy							
APR-JUL	9.0	13.0	16.0	71	23	32	23
APR-SEP	11.0	15.0	19.0	72	26	37	27
SUN RIVER at Gibson Dam (2)							
APR-JUL	240	315	364	76	415	490	478
APR-SEP	270	350	406	77	460	540	526
MISSOURI RIVER at Fort Benton (2)							
APR-JUL	690	1400	1880	61	2360	2780	3087
APR-SEP	1620	1700	2230	61	2760	3310	3678
MARIAS RIVER near Shelby (2)							
APR-JUL	164	250	310	69	370	455	447
APR-SEP	186	275	335	69	395	485	487
MISSOURI RIVER at Virgelle (2)							
APR-JUL	845	1630	2160	60	2690	3480	3595
APR-SEP	1980	2280	2540	60	3140	4020	4217
MISSOURI RIVER near Landusky (2)							
APR-JUL	1020	1830	2380	61	2930	3740	3897
APR-SEP	2200	2520	2780	61	3370	4440	4580
MISSOURI RIVER below Fort Peck (2)							
APR-JUL	980	1760	2290	57	2820	3600	4015
APR-SEP	1920	2230	2620	59	3190	4240	4467
LAKE SAKAKAWEA Inflow (2)							
APR-JUL	5550	6720	7520	76	8320	9490	9897
APR-SEP	6350	7650	8610	76	9570	12100	11346

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -2.1 in the Missouri River above Canyon Ferry; -2.0 in the Missouri River below Canyon Ferry; -1.0 in the Missouri River above Ft. Peck; and -0.3 in the Missouri River below Ft. Peck.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1961.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1972.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS as of April 1, 1994

Snowpack conditions in the Smith-Judith-Musselshell River Basins were below average. Snow water content was 18 percent below average and 13 percent above last year.
Mountain precipitation during March was 31 percent below average and 5 percent above last year. Water year precipitation, beginning October 1, 1993, was 11 percent below average and the same as last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SMITH-BELT	7	108	82
JUDITH-MUSSELSHELL	13	115	84

Reservoir storage, on the last day of March, was 29 percent above average and 19 percent above last year. Smith River storage was 39 percent above average and 94 percent above last year; Newlan Creek storage was 30 percent above average; Bair storage was 19 percent above average and the same as last year; Martinsdale storage was 72 percent above average and 132 percent above last year; and Deadman's Basin was 19 percent above average and 13 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
SMITH RIVER	10.6	10.3	5.3	7.4
NEWLAN CREEK	12.4	10.8	----	8.3
BAIR	7.0	5.6	5.6	4.7
MARTINSDALE	23.1	16.7	7.2	9.7
DEADMAN'S BASIN	72.2	59.7	68.8	50.1

Streamflows, for the period April through July, are forecast to be 22 percent below average and 18 percent above last years forecasts.

Streamflow Forecasts

	<=== Drier ===	Future Conditions	=== Wetter ===>		
Forecast Pt	========== Chance of Exceeding * ==========				
Forecast Period	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SMITH RIVER near Fort Logan							
APR-JUL	24	37	46	74	55	68	62
APR-SEP	36	48	57	78	66	78	73
SHEEP CREEK nr White Sulphur Springs							
APR-JUL	12.6	15.1	16.8	93	18.5	21	18.1
APR-SEP	15.0	18.0	20	93	22	24	21

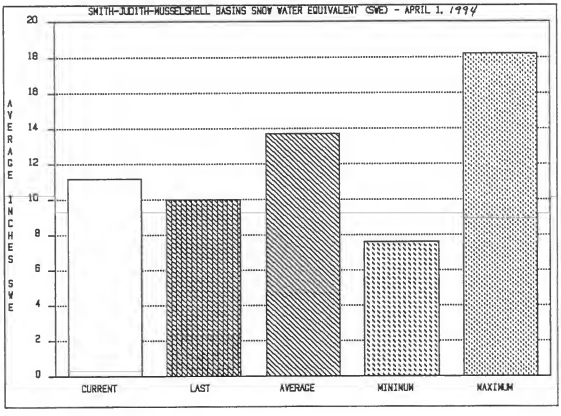
Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
			Chance of Exceeding *				
NF MUSSELSHELL near Delpine							
APR-JUL	1.3	2.6	3.5	73	4.4	5.7	4.8
APR-SEP	1.7	3.1	4.1	73	5.1	6.5	5.6
SF MUSSELSHELL abv Martinsdale							
APR-JUL	8.0	25	37	71	49	66	52
APR-SEP	9.0	27	39	70	51	70	56

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.2 in the Smith River and -0.1 in the Musselshell River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1992.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1970.

SUN-TETON-MARIAS RIVER BASINS as of April 1, 1994

Snowpack conditions in the Sun-Teton-Marias River Basins were below average. Snow water content was 25 percent below average and 9 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SUN-TETON	9	106	74
MARIAS	6	113	77
SUN-TETON-MARIAS	14	109	75

Mountain precipitation during March was 31 percent below average and 26 percent below last year. Water year precipitation, beginning October 1, 1993, was 22 percent below average and 2 percent below last year.

Reservoir storage, on the last day of March, was 28 percent above average and 14 percent above last year. Gibson storage was 11 percent above average and 28 percent above last year; Pishkun storage was 6 percent above average and 2 percent above last year; Willow Creek storage was 39 percent above average and 35 percent above last year; Lower Two Medicine Lake storage was 57 percent above average and 2 percent below last year; Four Horns Lake storage was 4 percent above average and 5 percent below last year; Swift storage was 31 percent above average and 56 percent above last year; Lake Frances storage was 35 percent above average and 128 percent above last year; and Lake Elwell (Tiber) storage was 28 percent above average and 6 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
GIBSON	99.1	56.2	44.0	50.5
PISHKUN	32.0	18.9	18.5	17.8
WILLOW CREEK	32.2	31.6	23.4	22.8
LOWER TWO MEDICINE LAKE	11.9	11.8	12.1	7.5
FOUR HORNS LAKE	19.2	13.0	13.7	12.5
SWIFT	30.0	22.6	14.5	17.2
LAKE FRANCES	112.0	96.9	42.4	71.6
LAKE ELWELL (TIBER)	1347.0	765.0	722.3	596.7

Streamflows, for the period April through July, are forecast to be 27 percent below average and 30 percent above last years forecasts.

Streamflow Forecasts

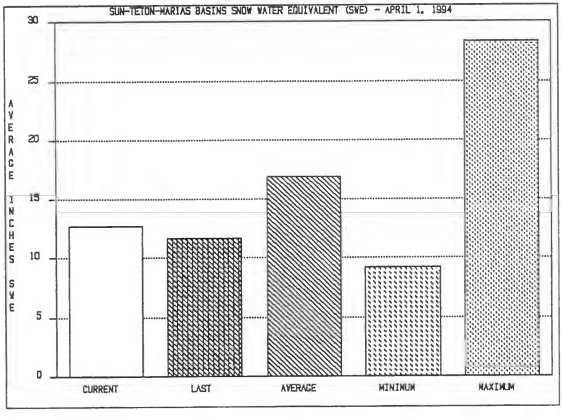
Forecast Pt / Forecast Period	<--- Drier --- Future Conditions --- Wetter ---> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	50% (Most Prob) (% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SUN RIVER at Gibson Dam (2)							
APR-JUL	240	315	364	76	415	490	478
APR-SEP	270	350	406	77	460	540	526
TWO MEDICINE RIVER near Browning (2)							
APR-JUL	87	128	156	73	184	225	215
APR-SEP	99	139	167	73	195	235	228
BADGER CREEK near Browning (2)							
APR-JUL	49	68	81	78	94	113	104
APR-SEP	60	81	95	79	109	130	120
SWIFT RESERVOIR Inflow near Dupuyer							
APR-JUL	30	44	53	78	63	77	68
APR-SEP	40	54	64	80	74	89	80
DUPUYER CREEK near Valier							
APR-JUL	3.7	6.5	9.3	60	15.5	25	15.5
APR-SEP	5.0	7.8	10.5	60	17.2	27	17.4
CUT BANK CREEK at Cut Bank							
APR-JUL	40	54	63	72	72	86	87
APR-SEP	46	60	70	73	80	94	96
MARIAS RIVER near Shelby (2)							
APR-JUL	164	250	310	69	370	455	447
APR-SEP	186	275	335	69	395	485	487

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.9 the Sun River; -1.8 in the Teton River; -1.6 in the Marias River; and 0.5 in the Birch/Dupuyer Creeks.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1984.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1972.

ST. MARY and MILK RIVER BASINS as of April 1, 1994

Snowpack conditions in the St. Mary and Milk River Basins were below average. Snow water content in the St. Mary River Basin was 13 percent below average and 30 percent above last year and in the Milk River Basin was 19 percent below average and 9 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MILK HEADWATERS	3	115	84
BEAR PAW	5	109	81
MILK RIVER	8	114	84
ST. MARY	5	130	87
ST. MARY and MILK	10	128	86
BOW RIVER in ALBERTA	0	0	0
OLDMAN RIVER in ALBERTA	0	0	0

Mountain precipitation during March was 30 percent below average and 27 percent below last year. Water year precipitation, beginning October 1, 1993, was 15 percent below average and 3 percent above last year.

Reservoir storage, on the last day of March, was 37 percent above average and 51 percent above last year. Lake Sherburne storage was 47 percent above average and 24 percent above last year; Fresno storage was 34 percent above average and 48 percent above last year; Beaver Creek storage was 50 percent above average and 3 percent below last year; and Nelson storage was 36 percent above average and 94 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
LAKE SHERBURNE	64.3	36.5	29.4	24.8
FRESNO	127.0	103.2	69.6	77.1
BEAVER CREEK	3.5	3.3	3.3	2.2
NELSON	66.8	49.8	25.6	36.5

Streamflows, for the period April through July, are forecast to be 22 percent below average.

Streamflow Forecasts

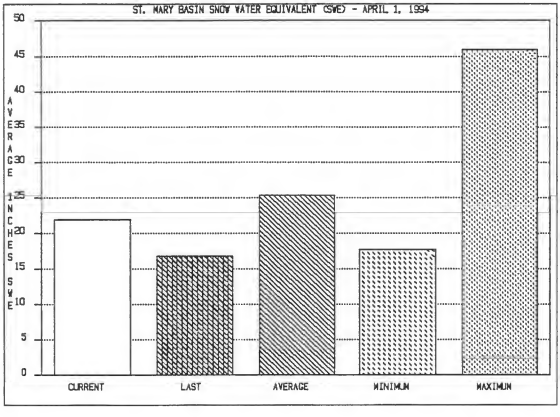
Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SWIFTCURRENT CREEK at Sherburne (2)							
APR-JUL	74	82	88	82	94	102	107
APR-SEP	88	98	104	83	111	120	125
ST. MARY RIVER near Babb							
APR-JUL	265	295	315	80	335	365	395
APR-SEP	315	350	375	81	400	435	463
MILK RIVER at Western Crossing							
APR-JUL	7.0	15.0	20	54	25	33	37
APR-SEP	9.0	17.0	22	56	27	35	39
MILK RIVER at Eastern Crossing							
APR-JUL	16.0	32	43	74	54	70	58
APR-SEP	25	40	50	75	60	75	67

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

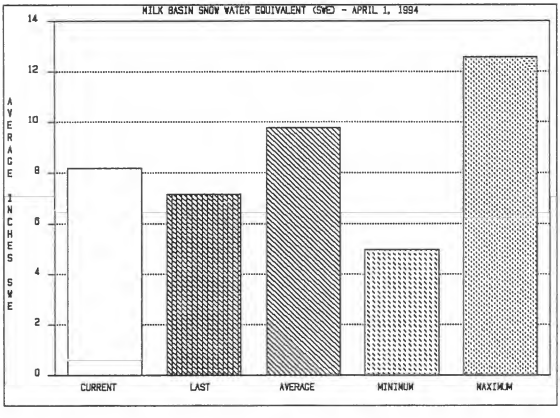
Surface Water Supply Index (SWSI) was 1.5 in the Milk River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1992.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1973-1993, OCCURRED IN WATER YEAR 1986.

MAXIMUM SNOW WATER EQUIVALENT, 1973-1993, OCCURRED IN WATER YEAR 1982.

UPPER YELLOWSTONE RIVER BASIN as of April 1, 1994

Snowpack conditions in the Upper Yellowstone River Basin were below average. Snow water content was 23 percent below average and 11 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
YELLOWSTONE ab LIVINGSTON	18	100	76
SHIELDS	7	101	70
BOULDER-STILLWATER	7	125	79
CLARK'S FORK-ROCK CREEK	13	124	81
UPPER YELLOWSTONE above BIGH	41	111	77

Mountain precipitation during March was 44 percent below average and 24 percent below last year. Water year precipitation, beginning October 1, 1993, was 21 percent below average and 1 percent below last year.

Reservoir storage, on the last day of March, was 11 percent above average and 4 percent above last year. Mystic Lake storage was 58 percent below average and 30 percent above last year and Cooney storage was 24 percent above average and 3 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
MYSTIC LAKE	21.0	1.3	1.0	3.1
COONEY	27.4	20.9	20.3	16.9

Streamflows, for the period April through July, are forecast to be 14 percent below average and 14 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Corwin Springs							
APR-JUL	1230	1330	1393	87	1460	1550	1609
APR-SEP	1460	1580	1670	86	1760	1880	1937
YELLOWSTONE RIVER near Livingston							
APR-JUL	1400	1520	1600	86	1680	1800	1855
APR-SEP	1690	1830	1930	86	2030	2170	2241
SHIELDS RIVER near Livingston							
APR-JUL	72	96	113	70	130	154	162
APR-SEP	86	111	128	72	145	170	179

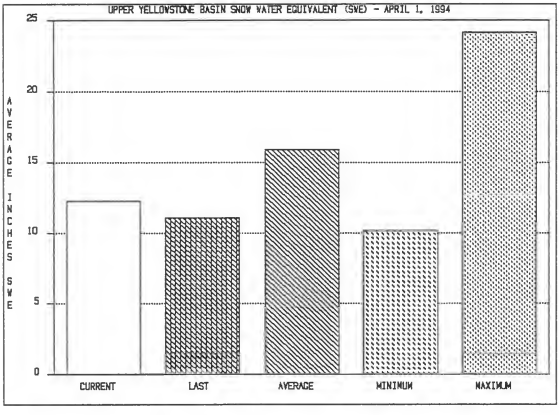
Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	--- Wetter ---> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
BOULDER RIVER at Big Timber							
APR-JUL	173	215	242	72	270	310	335
APR-SEP	188	230	258	71	285	330	364
WEST ROSEBUD CREEK near Roscoe (2)							
APR-JUL	38	44	48	79	52	58	61
APR-SEP	50	57	62	78	67	74	79
STILLWATER RIVER nr Absarokee (2)							
APR-JUL	300	365	413	83	460	525	498
APR-SEP	380	440	486	82	530	595	593
CLARKS FORK RIVER near Belfry							
APR-JUL	365	420	456	86	495	545	532
APR-SEP	430	490	529	90	570	630	590
RED LODGE CREEK blw Cooney Res (2)							
APR-JUL	17.0	32	43	91	54	69	47
APR-SEP	28	44	54	95	65	80	57
YELLOWSTONE RIVER at Billings (2)							
APR-JUL	2440	2880	3180	89	3480	3920	3577
APR-SEP	3200	3430	3760	89	4090	4340	4211

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.9 in the Yellowstone River above Bighorn River; -2.0 in the Yellowstone River above Livingston; -2.4 in the Shields River; -2.5 in the Boulder River; -1.9 in the Stillwater River; -1.7 in the Rock/Red Lodge Creeks; and -1.8 in the Clarks Fork River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1981.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1971.

LOWER YELLOWSTONE RIVER BASIN as of April 1, 1994

Snowpack conditions in the Lower Yellowstone River Basin were below average. Snow water content was 12 percent below average and 20 percent above last year.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WIND RIVER (Wyoming)	17	97	78
BIGHORN RIVER (Wyoming)	20	124	90
LITTLE BIGHORN	3	157	113
TONGUE RIVER (Wyoming)	9	143	103
POWDER RIVER (Wyoming)	9	131	88
YELLOWSTONE RIVER	83	115	82

Mountain precipitation during March was 1 percent above average and 49 percent above last year. Water year precipitation, beginning October 1, 1993, was 8 percent above average and 34 percent above last year.

Reservoir storage, on the last day of March, was 3 percent below average and 2 percent below last year. Bighorn Lake storage was 2 percent below average and 4 percent below last year and Tongue River was 16 percent below average and 81 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
BIGHORN LAKE	1356.0	783.3	814.8	798.5
TONGUE RIVER	68.0	30.2	16.7	36.1

Streamflows, for the period April through July, are forecast to be 11 percent below average and 25 percent above last years forecasts.

Streamflow Forecasts

	<=== Drier ===	Future Conditions	=== Wetter ===>		
Forecast Pt	========== Chance of Exceeding * ==========				
Forecast Period	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Billings (2)							
APR-JUL	2440	2880	3180	89	3480	3920	3577
APR-SEP	3200	3430	3760	89	4090	4340	4211
BIGHORN RIVER nr St. Xavier (2)							
APR-JUL	960	1220	1400	85	1580	1840	1645
APR-SEP	950	1400	1580	88	1760	2220	1794

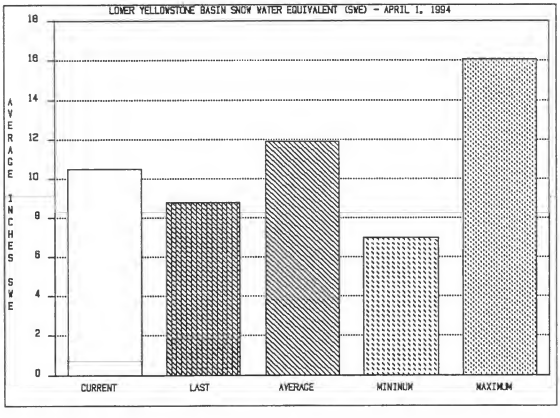
Forecast Pt Forecast Period	<=== Drier === 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Prob) (1000AF)	(% AVG.)	=== Wetter ===> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
LITTLE BIGHORN RIVER nr Hardin							
APR-JUL	76	128	163	116	198	250	140
APR-SEP	89	145	183	117	220	275	157
TONGUE RIVER near Decker (2)							
APR-JUL	192	230	256	116	280	320	221
APR-SEP	220	255	282	116	305	345	244
YELLOWSTONE RIVER at Miles City (2)							
APR-JUL	3250	4190	4830	89	5470	6410	5431
APR-SEP	4210	4920	5610	89	6300	7030	6281
POWDER RIVER at Moorhead							
APR-JUL	102	136	159	75	182	215	211
APR-SEP	129	160	180	78	200	230	232
POWDER RIVER near Locate							
APR-JUL	150	180	200	79	220	250	252
APR-SEP	164	197	220	80	245	275	276
YELLOWSTONE RIVER nr Sidney (2)							
APR-JUL	3630	4610	5270	89	5930	6910	5925
APR-SEP	3900	5040	5820	85	6600	7740	6814

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.7 in the Yellowstone River below Bighorn River; -0.8 in the Bighorn River below Bighorn Lake; 2.5 in the Little Bighorn River; 1.6 in the Tongue River; and 0.0 in the Powder River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1966.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1993, OCCURRED IN WATER YEAR 1971.

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Montana
Basin Outlook Report

Soil Conservation Service
Bozeman, MT